

determining, by the central entity computer, that the digital currency corresponding to the serial number and denomination is already recorded on the blockchain; and

refraining from generating a second digital currency based on the second request.

9. The method of claim 1, wherein the blockchain includes a plurality of blocks, at least one block, of the plurality of blocks, storing data for a plurality of transactions, the plurality of transactions including a first record indicating that the digital currency for an amount associated with the denomination has been created, the first record including a public key associated with a digital wallet.

10. The method of claim 1, wherein the blockchain includes a plurality of blocks, at least one block, of the plurality of blocks, storing data for a plurality of transactions, the plurality of transactions including a second record recording the removal of the physical currency from circulation.

11. The method of claim 1, wherein recording the digital currency on the blockchain generates a record in a block in the blockchain, the record comprising a currency type of the physical currency and the serial number of the physical currency.

12. A central entity computer comprising:

a processor; and

a non-transitory computer-readable medium comprising code, executable by the processor, for implementing a method comprising:

receiving, by the central entity computer, a request for digital currency, the request comprising a serial number and a denomination of a physical currency;

generating, by the central entity computer, the digital currency for the denomination and linked to the serial number, wherein the generating comprises recording the digital currency on a blockchain;

transmitting, by the central entity computer, a notification of the generation of the digital currency; and

causing, by the central entity computer, removal of the physical currency from circulation in a fiat currency system.

13. The central entity computer of claim 12, further comprising:

associating the digital currency with a first digital wallet using a private key stored to the first digital wallet, wherein the private key of the first digital wallet is stored on a chip of a smart card or a secure element of a user device.

14. The central entity computer of claim 12, the method further comprising:

receiving, by the central entity computer from a transaction processing network, a trusted certificate for the central entity computer; and

using the trusted certificate to generate the digital currency.

15. The central entity computer of claim 12, wherein, prior to transmitting the notification of the generation of the digital currency, the recording of the digital currency on the blockchain is validated by a plurality of validating entities.

16. The central entity computer of claim 12, wherein the digital currency is recorded on the blockchain using a public key of the central entity computer.

17. A computer-implemented method comprising:

receiving, by a blockchain node storing a blockchain, a request to record an action relating to removal of physical currency with a denomination from a fiat currency system;

recording, by the blockchain node, a record of the action relating to the removal of the physical currency with the denomination from the fiat currency system to the blockchain;

receiving, by the blockchain node, a request to record digital currency in an amount equal to the denomination, the digital currency associated with a public key of a user; and

recording, by the blockchain node, the digital currency in an amount equal to the denomination.

18. The method of claim 17, further comprising:

receiving, by the blockchain node, a request to record a transaction between a first user and a second user, the request including a public key of the first user, a public key of the second user, and a transaction amount; and

recording a record of the transaction between the first user and the second user, the record of the transaction including a public key of the first user, a public key of the second user, and the transaction amount in a block along with the action relating to removal of physical currency with a denomination from the fiat currency system to the blockchain.

19. The method of claim 18, the record further comprising a currency type of the physical currency.

20. The method of claim 17, wherein the digital currency in the amount equal to the denomination is recorded to a record, the record further comprising a currency type of the physical currency and a serial number of the physical currency.

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